

TEST REPORT

2020EC4785

DATE OF RECEPTION

21/12/2020

APPLICANT

UAB TECHDENTIKA
SVITRIGAILOS 11B
LT-03228 VILNIUS

DATE TESTS

Starting: 12/01/2021
Ending: 13/01/2021

Att.

IDENTIFICATION AND DESCRIPTION OF SAMPLES

REFERENCES

DMC MASK DM-002 without valve

Description:

Particle filtering half mask without exhalation valve covering nose, mouth and chin, white colour

TESTS CARRIED OUT

- VISUAL INSPECTION.
- PRACTICAL BEHAVIOR.
- FILTER PENETRATION WITH SODIUM CHLORIDE.
- CO2 CONTENT IN INHALED AIR.
- BREATHING RESISTANCE.



SAMPLE DESCRIPTION

DESCRIPTION OF THE SAMPLE

Reference	Description of the sample
DMC MASK DM-002 without valve	Particle filtering half mask without exhalation valve covering nose, mouth and chin, white color.



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RESULTS

VISUAL INSPECTION

Standard

EN 149:2001+A1:2009 modified by RfU PPE-R/02.075.02

Reference

DMC MASK DM-002V without Valve

Requirements of visual inspection to evaluate the filtering half mask against particles according to standard EN 149:2001 + A1:2009

Packing (Requirement according to the point 7.4)

Filtering half mask shall be packaged to protect them from mechanical damage, thermal and contaminant conditions during storage.

PASS

Materials (Requirement according to the point 7.5)

The materials used shall withstand handling and use during the period of time for which the half-mask filter has been designed, and it shall not constitute a danger or damage to the user and the filter shall not be a danger or damage to the user.

PASS

Finished of parts (Requirement according to the point 7.8)

Parts of the equipment that can come into contact with the user shall not have sharp edges or burrs.

PASS

Exhalation valve (Requirement according to the point 7.15)

If an exhalation valve is available, it shall be protected against dirt and mechanical damage and shall include any other device necessary to meet the requirements for leakage into the interior.

N.A.

Removable parts (Requirement according to the point 7.18)

All removable parts (if any) shall be easily connected and secured and, wherever possible, manually.

N.A.

N.A. Does not apply

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RESULTS

PRACTICAL BEHAVIOR

Standard

EN 149:2001+A1:2009 (point 8.4) modified by RfU PPE-R/02.075.02

Testing conditioning

Room 2

Test date	Initial	Final
13/01/2021	22,7 °C / 28,4 %	22,6 °C / 28,7 %

Testing conditioning

Room 3

Test date	Initial	Final
13/01/2021	23,5 °C / 50,7 %	23,4 °C / 51,3 %

Observation or deviation of the standard

Description of the sample

Particle filtering half mask without exhalation valve covering nose, mouth and chin, white color.

Reference

DMC MASK DM-002 without valve

TESTER	Sample no.
1	1
Does the respiratory protective device fit well?	
YES	

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RESULTS

Walk test

Results Yes No Does not apply Not Evaluated

Walk for 10 min at a speed of 6 km / h.	Acceptance by tester
The finishing of filtering half mask that are in contact with the user must be free of sharp edges and burr. Materials likely to be in contact with the user's skin shall not present a known risk of irritation or other adverse health effects.	
The user has not suffered any damage by edges. The materials of the mask have not irritated the user.	YES
The head harness shall be designed so that it can be easily put on and removed.	
The tester has been able to put on and take off his half mask without problems.	YES
The head harness shall be adjusted or self-adjusted and hold the full facepiece in its position firmly and comfortably.	
The half mask has been easily adjusted.	YES
The filtering half mask has not hindered the field of vision during its use.	
The user's vision has not been hindered.	YES
The filter half mask has a good facial seal during use.	
The half mask has been maintaining a good face seal.	YES
Other comments.	

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RESULTS

Work simulation test

Results Yes No Does not apply Not Evaluated

Walking for 5 min. at a free height of (1,3 ± 0,2) m; (1.3 ± 0.2) m; Crawling on all fours for 5 min. at a free height of (0,7 ± 0,05) m.; and Filling a 1.5 m hopper, about 20 times.	Acceptance by tester
The finishing of filtering half mask that are in contact with the user must be free of sharp edges and burr. Materials likely to be in contact with the user's skin shall not present a known risk of irritation or other adverse health effects.	
The user has not suffered any damage by edges. The materials of the mask have not irritated the user.	YES
The head harness shall be designed so that it can be easily put on and removed.	
The tester has been able to put on and take off his half mask without problems.	YES
The head harness shall be adjusted or self-adjusted and hold the full facepiece in its position firmly and comfortably.	
The half mask has been easily adjusted.	YES
The filtering half mask has not hindered the field of vision during its use.	
The user's vision has not been hindered.	YES
The filter half mask has a good facial seal during use.	
The half mask has been maintaining a good face seal.	YES
Other comments.	

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RESULTS

Requirements to be met according to EN 149:2001+A1:2009, point 7.7 and according to RfU PPE-R / 02.075.02

The respiratory protective equipment shall not have imperfections related to user acceptance.

Requirement added RfU PPE-R/02.075.02: During the practical performance test, the test subject should pay particular attention to the ability of the product to maintain a good faceséal. If the wearer observes that a good faceséal is not maintained, they shall be instructed to readjust the filtering half mask according to the user instructions. Should the test subject experience further difficulties with maintaining a good faceséal during the practical performance test, the filtering half mask shall be considered unsatisfactory.

The test was carried out at APPE Laboratory located at Polígono Industrial Santiago Payá C/ Filá Benimerines, 25 B – 03801 Alcoy (Alicante).

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RESULTS

FILTER PENETRATION WITH SODIUM CHLORIDE

Standard

EN 149:2001+A1:2009 (point 8.11) modified by RfU PPE-R/02.075.02

Apparatus

Sodium chloride penetration equipment

Testing conditioning

Test date	Initial	Final
13/01/2021	23,5 °C / 52 %	23,8 °C / 53 %

Sample Conditioning

- As received

Observation or deviation of the standard

Description of the sample

Particle filtering half mask without exhalation valve covering nose, mouth and chin, white color.

Test uncertainty

The expanded uncertainty is $\pm 15\%$ of the value of the measured for a probability of coverage of 95%.

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RESULTS

Reference

DMC MASK DM-002 without valve

Sodium chloride penetration test (3,5 min)	
Sample no.	Average value of penetration %
1	0,95
2	0,88
3	0,58

Exposure to 120mg of sodium chloride	
Sample no.	Max. value of penetration
1	1,0
2	1,0
3	1,0

Requirements to be met according to RfU PPE-R/02.075.02

Maximum penetration to the sodium chloride of the filter material:

Classification(*)	95l/min %Max
FFP2	6
FFP3	1

(*) To give the classification, all the EN 149: 2001 + A1: 2009 standard must be carried out. For the Rfu for Covid-19, the requirement is whether or not the test passes, without being able to classify.

The test was carried out at APPE Laboratory located at Polígono Industrial Santiago Payá C/ Filá Benimerines, 25 B – 03801 Alcoy (Alicante).

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RESULTS

CO₂ CONTENT IN INHALED AIR

Standard

EN 149:2001+A1:2009 (point 8.7)

Apparatus

Dynamic Breathing equipment, Sheffield test head, Measured CO₂ flow and CO₂ analyzer.

Testing conditioning

Test date	Initial	Final
13/01/2021	22,5 °C / 25,5 %	22,5 °C / 27,2 %

Observation or deviation of the standard

Description of the sample

Particle filtering half mask without exhalation valve covering nose, mouth and chin, white color.

Test uncertainty

The expanded uncertainty is $\pm 12\%$ of the value of the measured for a probability of coverage of 95%.

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RESULTS

Reference

DMC MASK DM-002 without valve

Sample no,	Average value of CO ₂ contained in inhaled air (%)
1	0,34
2	0,54
3	0,34
Average	0,41

Requirements to be met according to EN 149:2001+A1:2009, point 7.12.

Carbon dioxide content in inhalation air (dead space) should not exceed an average of 1.0% (by volume).

The test was carried out at APPE Laboratory located at Polígono Industrial Santiago Payá C/ Filá Benimerines, 25 B – 03801 Alcoy (Alicante).

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RESULTS

BREATHING RESISTANCE

Standard

EN 149:2001+A1:2009 (point 8.9) modified by RfU PPE-R/02.075.02

Apparatus

Sheffield test head, constant breathing equipment and digital flowmeter

Testing conditioning

Test date	Initial	Final
12/01/2021	22,4 °C / 27,9 %	22,5 °C / 27,5 %

Sample Conditioning

- As received

Observation or deviation of the standard

Description of the sample

Particle filtering half mask without exhalation valve covering nose, mouth and chin, white color.

Test uncertainty

The expanded uncertainty is $\pm 10\%$ of the value of the measured for a probability of coverage of 95%.

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RESULTS

Reference

DMC MASK DM-002 without valve

Sample no.	Resistance to inhalation (30l/min) mbar	Resistance to inhalation (95l/min) mbar
1	0,19	0,67
2	0,19	0,67
3	0,20	0,71

Resistance to exhalation (160l/min) mbar					
Sample no.	Forward	Upwards	Down	Towards the left side	Towards the right side
1	1,02	1,02	1,02	1,01	1,01
2	1,07	1,07	1,06	1,06	1,07
3	1,14	1,14	1,14	1,12	1,12

Requirements to be met according to RfU PPE-R/02.075.02

Maximum resistance permitted (mbar)			
Classification(*)	Inhalation 30l/min	Inhalation 95l/min	Exhalation 160l/min
FFP2	0,7	2,4	3,0
FFP3	1,0	3,0	3,0

(*) To give the classification, all the EN 149: 2001 + A1: 2009 standard must be carried out. For the Rfu for Covid-19, the requirement is whether or not the test passes, without being able to classify..

The test was carried out at APPE Laboratory located at Polígono Industrial Santiago Payá C/ Filá Benimerines, 25 B – 03801 Alcoy (Alicante).

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Israel Soriano
Head of Advance Personal Protective Equipment Lab.

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